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IS/IT Investment Evaluation Practices, B2BEC Adoption, and IT Maturity in large Australian Organizations: Preliminary Findings

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Abstract

The issue of expected and actual benefits realized from IS/IT investments has generated a lot of debate in the IS literature amongst researchers and practitioners. This problem has become more complex as the nature of IS/IT investments and the benefits they can deliver has evolved over time has changed rapidly. This research study aims to establish current practices and norms in managing benefits and evaluation on IS/IT investments by large organizations in Australia. The results indicated relatively high usage of these methodologies by the responding organizations. However, these methodologies were generally not used widely and effectively within these large Australian organizations. The results also demonstrated that there was a significant positive relationship between the use of IEM/BRM methodologies and the degree of satisfaction with the adoption of B2BEC. Furthermore, there appeared to be a significant positive relationship between the adoption and wide use of the evaluation methodologies and the level of IT maturity of the responding organizations.

Keywords

IS/IT investment evaluation, IS/IT benefits realization, B2B electronic commerce, IT maturity

INTRODUCTION

The growth of business-to-business electronic commerce (B2BEC) has outpaced all of other forms of electronic commerce (McGaughey, 2002). In fact, B2BEC trade represents the largest growth sector, that is, 80% of revenues - in e-commerce (Pires and Aisbett, 2003). Forrester Research forecasts that both B2B and B2C will hit US\$6.8 trillion in 2004, a big increase on the US\$43 billion of 1998 (Greenberg, 2000). By 2005, it is forecasted that the global B2BEC market may reach US\$7 to US\$10 trillion (Turban et al., 2004). In addition, IDC predicts that Australian B2BEC spending will grow at 70% annually and is likely to reach A\$166.25 billion by 2006 (Pearce, 2002). It is estimated that B2BEC can increase the level of output in the developed economies by an average of 5% cent over time (McIvor and Humphreys, 2004). B2BEC spending will increase by 86% in Australia between 2000 and 2005 (IDC in Chien, 2001). Moreover, Goldman Sachs' investment research report on B2BEC has rated Australia as one of the economies best placed to benefit from B2BEC revolution as it will contribute an average of 0.24% annually to Australia's growth over the next decade (DFAT, 2003).

IS/IT investments in B2BEC are used to assist in the inter-organization acquisition of goods into the value chain and to provide interfaces between customers, vendors, suppliers and sellers (Barua et al., 2004; Kleist, 2003). Although B2BEC provides the organizations a wealth of new opportunities and ways of doing business, it is extremely difficult to evaluate and therefore, have yet to prove enduring sources of profit (Laudon and Laudon, 2004). In particular, organizations often take the short-term view of evaluating their electronic commerce initiatives by only looking at the potential advantages of IT use while at the same time are unaware of the factors that may hinder the benefits attainment in the long term (Quaddus and Achjari, 2003) such as managing the relationship between the justification of the B2BEC initiatives to stakeholders and the level of commitment towards project success (Irani, 2002).

While organizations continue to invest heavily in IS/IT (e.g. B2BEC), research studies and practitioner surveys report contradictory findings on the effect of the expenditures on organizational productivity (Osei-Bryson and Ko, 2004; Thatcher and Pingry, 2004). Therefore, it is not difficult to see that the measurement of the business value of IS/IT investment has been the subject of considerable debate by many academics and practitioners (Brynjolfsson and Hitt, 2003; Sugumaran and Arogyaswamy, 2004). Although some IS/IT productivity studies have produced inconclusive and negative results (Shin, 2001; Zhu, 2004), many research indicated that spending in IT is directly related to organizational performance (eg. Hu and Quan, 2005; Serafeimidis and Smithson, 2003).

The difficulties of evaluation and benefits realization processes are often the determining factors in the application of any formal methodology, and must be addressed if the processes are to be understood. Given the complexity of the decisions and the large expenditure involved, better understanding of the basis and practice of IS/IT investment and evaluation in large Australian B2BEC organizations is warranted. Therefore, the aims of this paper are to undertake an exploratory study that attempts to: (1) investigate the current practices, norms, and difficulties in managing IS/IT benefits and evaluation by large Australian organizations; and (2) examine the IT maturity level and the degree of satisfaction with the adoption of B2B electronic commerce in large Australian organizations.

IS/IT INVESTMENT EVALUATION

According to the 2003 SIM survey, measuring the value of IS/IT investment is one of the top five management concerns (Luftman and McLean, 2004). However, despite the plethora of IS/IT evaluation and benefits realization research undertaken, the availability of many evaluation and benefits realization methodologies, and the increased spending on IT, many IT managers still do not understand the importance of the investment evaluation and benefits realization processes (Love et al., 2005). The evaluation of these IS/IT investments is a complex tangle of financial, organizational, social, procedural and technical threads, many of which are currently either avoided or dealt with ineffectively (Mirtidis and Serafeimidis, 1994). There appears to be no consistent evaluation and measurement of IT investment by most organizations (Tam, 1998). Furthermore, evaluation of IT infrastructure in electronic commerce initiatives such as B2BEC has been shown to be critical to successful implementation (Lewis and Byrd, 2003).

However, the pay-offs from implementing B2BEC are not controllable and invariably depend upon other business functions within the organization (Dempsey et al., 1999). The major benefits organizations can gain from IS/IT investments are inherently qualitative and cannot be easily assessed beforehand and calculated in monetary terms (Giaglis et al., 1999). The problem becomes more evident as IS/IT is used to link the supply chain or to change the structure of industries, and costs and benefits have to be tracked across functional and organizational boundaries (McKay and Marshall, 2004). This is because that the nature of electronic commerce technology makes it harder for organizations to allocate and assign costs and benefits to IS/IT projects, further blurring the lines of capital investment and return from IS/IT spending in the B2B channel (Kleist, 2003; Subramani, 2004). The less precisely bounded environment of B2B electronic commerce technology adds more complexity to the IS/IT measurement problem as this type of investment is physically distributed between suppliers and customers (Torkzadeh and Dhillon, 2002).

Indeed, many organizations have found that these IS/IT project costs and benefits can be difficult to estimate and control (Giaglis et al., 1999; Schneider, 2003). For instance, many organizations face a challenge of measuring and monitoring the performance of the specific contribution of inputs in generating outputs as well as its associated Internet channels (Kim and Umanath, 2005; King and Liou, 2004). Moreover, other less quantifiable items such as loyalty, trust, knowledge, brand awareness, relationships, the boundaries of inter-organizational networks, value creation and customer satisfaction all makes the evaluation even more difficult (Straub et al., 2004; Subramani, 2004). Some new and old measures need to be differentially applied for evaluating phenomena such as electronic commerce and the Internet (Straub et al., 2004). Efforts to identify the relationship between the evaluation practices and the organizational constraints and benefits and develop measures for B2B electronic commerce initiatives have been hindered by the lack of necessary conceptual bases (Torkzadeh and Dhillon, 2002).

Therefore, the inability of many organizations to measure and apply IT both, inter-and-intra organizationally is resulting in missed opportunities and a lack of business value (van Grembergen and van Bruggen, 1998). Indeed, investigation by Sohal and Ng (1998) found that in large Australian organizations the potential of IS/IT has not been utilized to meet the competitive challenges due to inadequate and inappropriate appraisals/evaluation of the proposed IS/IT investment projects. Moreover, they reported that 45% of the responding organizations did not evaluate whether IS/IT systems were still consistent with business objectives and 59% did not determine whether expected benefits were being achieved. Similarly, Ezingard et al. (1998) reported that half of the organizations did not formally identify expected benefits and justified the IS/IT investment as an act of faith.

Thus, failure to plan for and, derive the benefits from an IS/IT investment can have detrimental consequences on organizational performance. Some of the major problems associated with IS/IT investment evaluation are:

- There is a lack of understanding of the impact of the proper IS/IT investments evaluation and benefits realization processes in most of the organizations. Organizations often fail to measure their IS/IT investments and identify relevant risks, costs, and benefits (Counihan et al., 2002).

- Traditional financially oriented evaluation methods (e.g. ROI, NPV) can be problematic in measuring IS/IT investments and quantifying relevant benefits and costs (Bardhan et al., 2004; Willcocks and Lester, 1997).
- Organizations often have neglected to devote appropriate evaluation time and effort to IS/IT as well as to deal with the extended investment time frame. Organizations have failed to understand that IS/IT investments require richer evaluation approaches than mono-dimensional cost-benefit analysis (Stamoulis et al., 2002; Ward et al., 1996).
- Working with new technology introduces higher levels of risk, which affects timing, costs and delivery deadlines (Peacock and Tanniru, 2005; Seddon et al., 2002).
- It is very difficult to evaluate intangibles and make relationship between IS/IT and profitability explicit (Murphy and Simon, 2002).
- Organizations often fail to do proper IS/IT planning and to create a strategic climate in which IS/IT investment can be related to organizational direction and objectives (Ballantine and Stray, 1999; Willcocks, 1992).

As mentioned earlier, the difficulty in evaluation centers on the facts that both benefits and costs are difficult to quantify and inappropriate evaluation data and approaches continue to hamper the researchers (Kohli and Sherer, 2002; Sugumaran and Arogyaswamy, 2004). As a result, evaluation is often ignored or carried out inefficiently or ineffectively because it is deemed an elusive and complex process (Serafeimidis and Smithson, 2003).

IS/IT BENEFITS REALIZATION

While IS/IT investment evaluations are important, they are insufficient in terms of ensuring that the benefits identified and expected by organizations are realized and delivered (Ward and Griffiths, 1996). This is because IS/IT is just one enabler of process change (Grover et al., 1998) and it only enables or creates a capability to derive benefits. The essence of benefits realization is to organize and manage so that the potential benefits arising from the use of IS/IT can actually be realized (Ward and Elvin, 1999). Benefits realization and identification are also seen as a function of strategic information systems planning (Changchit et al., 1998). Benefits may be considered as the effect of the changes, the difference between the current and proposed way that work is done (Ward and Griffiths, 1996). Things only get better when people start doing things differently. Indeed, good management of organizational change is important to ensure successful IS/IT evaluation and benefits realization processes (Sherer et al., 2003).

However, assessing the effective delivery of benefits from these services is very difficult (Ward et al., 1996). IS/IT cost identification, measurement and control remains a significant challenge for organizations. To overcome this problem, IT projects should be evaluated in the context of accumulated costs and benefits from related initiatives, not solely judged on single initiatives (Galliers et al., 1996).

Research by Seddon et al. (2002) and Teo and Ranganathan (2004) indicate that identifying and measuring benefits as the most difficult issue in evaluating IS/IT. In addition, a survey by CIE (Norris, 1996) found that vague statement of benefits, leading to an uncertain allocation of responsibility for managing their delivery, as the number one cause for IS/IT project failure. Some of the main reasons put forward for the failure to monitor whether the projected benefits of IS/IT were being realized by the organizations are:

- It is difficult to assess benefits after a project has been implemented as benefits are often experienced later (Murphy and Simon, 2002).
- Many organizations have poor IS/IT adoption practices (Fink, 1998).
- It is not necessary as the project was implemented according to plan (Norris, 1996).
- Many organizations tend to give very little attention to the intangible benefits when investment decisions are made (Dehning et al., 2004).
- It is too costly to undertake the proper post-implementation reviews on benefits (Norris, 1996).

While the search for benefit identification can contribute to the perceived success of an IS/IT investment, organizations have often found it difficult to evaluate them and as a result tend to use arbitrary values for assessing benefits. Few organizations have a rigorous benefits realization approach and, while much attention is paid to justifying investments, little effort is extended to ensuring that the benefits are realized. To determine if the desired IS/IT benefits have been achieved in practice, it is necessary to undertake an ex-post evaluation of benefits (Ward et al., 1996). If no measurable effects can be identified other than the implementation of the technology itself, then it can be assumed that no benefits have been realized (Ward et al., 1996).

IS/IT maturity and the usage of IEM and BRM

IS/IT investments evaluation methods (IEM) concern with making investment decisions and monitoring the performance of the IS/IT projects while IS/IT benefit realization methods (BRM) ensure benefits are delivered once a decision to invest has been taken. In other words, IEM is more about selecting, evaluating and monitoring the project or projects that at the outset seem to offer the greatest returns or benefits for the outlay whereas the BRM involve planning how and when benefits will be delivered and deciding who will be responsible for achieving benefits as well as actually overseeing the realization of benefits.

According to Lin et al. (2004), organizations that employ BRM would be likely to also employ IEM, but the converse may not necessarily be the case. Organizations that display more willingness to use such processes maybe more likely to be advanced along a continuum of maturity as shown in Galliers and Sutherland's Six Stages of the Revised Model (1991). Moreover, organizations which used a BRM may be classified as having high IS/IT maturity and those that did not, low IS/IT maturity. Organizations with high IS/IT maturity would be more likely to be able to implement a benefits realization methodology while low IS/IT maturity organizations may be less likely to.

RESEARCH OBJECTIVES

Tremendous growth well into the foreseeable future is expected for IS/IT, with the main driving force being the commercialization of Internet organizations. Electronic commerce researchers and consultants all share an interest in maximizing the business value of IS/IT, while academics and practitioners are keen to know how organizations can exploit that value (Lee et al., 1999). To keep abreast of changing requirements, organizations require new metrics to measure whether their web efforts are paying off (Cutler and Sterne, 2000) and what conditions are optimal when engaging in B2BEC activities (Kaefer and Bendoly, 2004).

The current practices of the Australian organizations to manage and evaluate their IS/IT investments and their ability to realise the benefits from these investments in an increasingly competitive market are of interests to the researchers and company executives. Thus, one significant aspect of this research is to better understand the current trends in the effective utilization of IS/IT in Australia. Therefore, there is a pressing need for research to investigate how organizations can obtain significant returns on their IS/IT investments and B2BEC initiatives. Therefore, the two main objectives for this research are:

1. To establish current practices and norms in managing IS/IT benefits and evaluation by large Australian organizations; and
2. To examine the IT maturity level and the degree of satisfaction with the adoption of B2B electronic commerce in large Australian organizations.

RESEARCH METHODOLOGY

This survey, undertaken in 2005, targeted large Australian organizations. The questionnaire was based on two earlier surveys by Lin et al. (2004) and Ward et al. (1996). Prior to determining the sample size for the survey, a pilot survey of IT managers of 10 organizations (in addition to interviews with five IT managers) was conducted. The comments from this pilot survey were quite positive. Therefore, the questionnaire was not significantly altered for the main survey.

For the main survey, questionnaires were sent to IT managers/CIOs of 900 Australian organisations randomly selected from top 2000 Australian organisations (Dun and Bradstreet mailing list). The survey was conducted to investigate many aspects of IS/IT investments evaluation and benefits management processes and practices in large Australian organizations. Specifically, the survey sought to determine: (1) how benefits from IS/IT investments are identified, evaluated, structured, delivered and realized by organizations; (2) what criteria and methodologies are used to evaluate as well as to realize appropriate and adequate benefits; and (3) the IT maturity level and the degree of satisfaction with the adoption of B2B electronic commerce in these large Australian organizations. Respondents were asked to indicate, using a 5-point scale, the extent to which they agreed or disagreed with the questions listed in the survey. Two follow-up mailings were then carried out to increase the response rate. In total, 176 responses were received, representing a response rate of 19.6%. In addition, late returns were compared with other response received earlier in order to check for non-response bias (Armstrong and Overton, 1977). No significant differences were detected between two samples.

RESEARCH FINDINGS

In the following discussion of results the percentages referred to normally represent the proportion of valid (answered) cases only and did not indicate missing values. Additionally, most of the information presented

below was based on descriptive statistics, but some comparisons between groups were made using one-way ANOVA tests and correlation statistics.

A wide range of industry sectors was represented by those that responded. Table 1 shows most were from wholesale and retail (18.2%), government and utilities (15.3%), construction, mining and engineering (11.9%), health and pharmaceutical services (11.4%), and manufacturing (9.7%), and they were large in revenue and number of employees, by Australian standards. More than half of the responding organizations (51.7%) had an IT budget of more than A\$5 million. The ANOVA not only revealed that annual turnover did significantly vary with firm size in terms of employee numbers ($p < 0.000$), but also found significant differences between annual turnover and the IT budget ($p < 0.000$). This indicates that organizations with larger annual turnover and employees generally could afford to spend more on IS/IT projects.

Range	Percent (%)	Standard Deviation
(1) Industry sectors		N/A
Wholesale and retail	18.2	
Government and utilities	15.3	
Construction, mining & engineering	11.9	
Health and pharmaceutical services	11.4	
Manufacturing	9.7	
Financial and Insurance Services	6.9	
IT and communication	6.8	
Education	5.1	
Transportation	4.5	
Food and beverage	3.4	
Tourism and entertainment	3.4	
Other	3.4	
Total	100	
(2) Annual turnover (A\$m)		1.181
<6	4.0	
6-10	5.1	
11-50	7.4	
51-100	16.5	
101 and above	63.1	
Unsure/do not know	3.9	
Total	100	
(3) IT budget (A\$m)		1.724
<1	18.8	
1-5	25.0	
6-10	13.6	
11-20	18.2	
21 and above	19.9	
Unsure/do not know	4.5	
Total	100	
(4) Total number of employees		1.369
<51	7.4	
51-250	7.4	
250-500	6.8	
501-1000	21.6	
1001-5000	46.0	
5000 and above	10.8	
Total	100	

Table 1: Background information of the responding organizations

IS/IT Investment Evaluation and Benefits Realization Practices

The survey results revealed a reasonably high adoption of methodologies for IS/IT investment evaluation (IEM) (67.6%) and IS/IT benefits realization (BRM) (41.5%). However, the results also showed that 15.3% had failed to adopt an IS/IT investment evaluation methodology while 32.4% of responding organizations failed to adopt an IS/IT benefits realization methodology. A survey conducted on large organizations in the UK by Ward et al. (1996) indicated that 40.0% and 88.0% of the organizations failed to adopt an IS/IT investment evaluation methodology and IS/IT benefits realization methodology, respectively. Another study conducted in large Taiwanese organizations found that 47.2% and 47.2% failed to use the methodologies (Lin et al., 2004). The use of IEM by the responding organizations is also higher than the findings by a recent survey on Australian SMEs where 32.3% of these organisations failed to use an evaluation methodology to measure their IS/IT projects (Love et al., 2005). This indicates that the usage of both IEM and BRM by large Australian organizations is higher than large organizations in Taiwan and the UK. Overall, their use was found to be commonplace but by no means universal. In addition, the level of usage of IS/IT investment evaluation methodology and IS/IT benefits realization methodology by respondents were significantly correlated (0.669).

In addition, respondents indicated that IS/IT investment evaluation methodology was widely used (selected 4 or 5 out of a five-point scale ranging from “totally disagree” to “totally agree”) in only 50.6% of cases. However, this percentage is a lot higher than the surveys conducted in large Taiwanese organizations (22.6%) (Lin et al., 2004) and in large UK organizations (36%) (Ward et al., 1996).

Moreover, respondents indicated that benefits realization methodology was widely used in only 29.0% of cases. This result is consistent with findings by Lin et al. (2004) in their large Taiwanese organizations (24.5%) and two Australian SMEs studies by Jensen (2003) and Marshall and McKay (2002) where the BRM was not widely used by virtually all respondents. Overall, the usage of IS/IT investment evaluation methodologies and IS/IT benefits realization methodologies by respondents was also significantly correlated (0.691).

In terms of effectiveness of those methodologies in ensuring successful information systems, respondents who had methodologies indicated that investment evaluation and benefits realization were effective (4 or 5 out of a five-point scale) in 46.1%, and 32.4% of cases, respectively. Again, while the large Australian organizations were able to use the IEM more effectively than their Taiwanese counterparts (31.2%), the figure for BRM is more consistent with the Taiwanese finding (29.2% in Lin et al. (2004)). The level of effective use of IS/IT investment evaluation methodology was also significantly correlated with the effective use of IS/IT benefits realization methodology (0.795).

Respondents were also asked for the main reasons for evaluating their IS/IT projects. Most respondents indicated that ensuring that the expected benefits/objectives were met (77.8%) and improving the quality of their IS/IT projects (72.2%) were the most important reasons for evaluation. Surprisingly, only 49.1% of the respondents stated that company policy was one of the main reasons for evaluating their IS/IT projects. As expected, improved quality of their systems (73.9%) and attainment of greater efficiency (71.0%) were the most often encountered benefits in relation to the evaluation of their IS/IT projects.

Overall, although the usage for both the IS/IT investment evaluation and benefits realization methodologies were reasonably high, they were not used widely and effectively in ensuring successful information systems. This could be due to the fact that only 29.6% of the respondents had prepared a benefits delivery plan for their IS/IT projects. Moreover, the usage of these methodologies was not significantly correlated with the size of the organizations in terms of both the annual turnover and employee size. However, there was some positive relationship between the amount of IT budget and the use of IEM. Furthermore, an examination of these organizations revealed a significant correlation between the usage, the frequency of the usage and effective use of both IS/IT investment evaluation and benefits realization methodologies.

Degree of Satisfaction with B2BEC

More than half of the respondents (56.9%) indicated that B2B electronic commerce (B2BEC) had improved the efficiency of their business. B2BEC had also helped them to establish better relationships with their suppliers and buyers (43.7%) and reduce their costs (42.5%). The correlation tests show that there was a significant positive relationship between the use of IEM/BRM methodologies and the above three satisfaction variables. However, nearly half of the respondents (47.5) stated that the implementation of B2BEC had failed to enlarge their market shares. Overall, only 37.5% of the respondents were satisfied with the use of B2BEC in their business. This is a bit higher than the finding in large Taiwanese organizations (28.6%). This may be due to the higher usage of IEM as well as the higher level of IT maturity exhibited by the large Australian organizations.

The Level of IT Maturity

The respondents were also asked about where they thought their organizations stood in terms of its six stages of growth (“ad hococracy”, starting the foundations, centralised dictatorship, democratic dialectic and cooperation, entrepreneurial opportunity, and integrated harmonious relationships) for each of the seven elements (strategy, structure, systems, staff, style, skills, and superordinate goals) as described in Galliers and Sutherland’s Stage of Growth Model (1991).

	S1	S2	S3	S4	S5	S6	S7
Stage 1 (%)	5.7	1.1	2.3	4.0	1.7	6.8	1.7
Stage 2 (%)	9.1	11.9	11.9	14.2	7.4	7.4	3.4
Stage 3 (%)	28.4	15.3	38.1	14.2	18.8	16.5	18.2
Stage 4 (%)	33.5	35.8	16.5	36.4	21.0	26.7	33.6
Stage 5 (%)	13.6	17.0	18.8	22.7	14.8	30.7	15.3
Stage 6 (%)	9.7	18.8	12.5	8.5	36.4	11.9	27.8
Mean Stage (1-6 stages)	3.7	4.1	3.8	3.9	4.5	4.0	4.4

Table 2: Results for stages of growth

Table 2 shows for each element what percentage of organizations are in each stage. It shows that the “average” organizations were in stages 3-4 most of the seven elements, but there was a significant variation. Analysis showed that:

- Most of the seven elements (except style and skills) in IT maturity and the degree of satisfaction with the adoption of B2BEC were significantly correlated with each other ($p < 0.01$).
- The seven elements were significantly correlated with each other ($p < 0.01$). On average, the organizations’ seven elements were between stages 3 and 4. Specifically, more than half of the respondents’ strategy, structure, staff and super-ordinate goals elements were between stages 3 and 4.
- Structure and staff were significantly correlated with number of employees ($p < 0.01$). This indicates that larger Australian organizations were more mature in terms of structure and staff than their smaller counterparts.
- All seven elements in IT maturity and IT budget allocated by the responding organizations were significantly correlated with each other ($p < 0.01$).
- The seven elements were generally correlated with both wide use of both IEM and BRM ($p < 0.01$). The results suggested that there was a direct relationship between the wide use of these two methodologies and the IT maturity in terms of these seven elements.
- All but one of the seven elements (except strategy) were significantly correlated with the implementation of both IEM and BRM ($p < 0.01$). The results indicate that there was a direct relationship between the use of these two methodologies and the IT maturity in terms of these six elements

These results demonstrated a positive relationship between more mature organizations (i.e. higher stages on the seven elements) and the effective and wide use of both investment evaluation (IEM) and benefits realization (BRM) methodologies. All but one of the seven elements (except strategy) were possibly influential for organizations to implement investment evaluation (IEM) and benefits realization (BRM) methodologies. The other element, strategy, required wide use of both methodologies.

CONCLUSION

The survey results showed relatively high usage of IS/IT investment evaluation and benefits realization methodologies by large Australian organizations. However, these methodologies were generally not used widely and effectively within the responding organizations. In addition, most IT evaluations were carried out to ensure that the expected benefits/objectives were met and the quality of their IS/IT projects were improved. Benefits most often encountered by the responding organizations during their IT evaluation were: (1) improved quality of their systems; and (2) attainment of greater efficiency.

Moreover, most respondents were not satisfied with their use of B2BEC. The results demonstrated that there was a significant positive relationship between the use of IEM/BRM methodologies and the degree of satisfaction

with the adoption of B2BEC by the responding organizations. The potential benefits of B2BEC vary according to how companies define success. Some can leverage B2BEC to reduce operating costs. Others are more intent on developing better relationships with their suppliers and buyers. But B2BEC is not just a technological aid but is a tool for fulfilling marketing strategy. For those with a decision to make over IS/IT investment justification and B2BEC adoption, the evaluation of IS/IT investment and benefits realization processes alone are not sufficient guarantees of success. Rather, the key is integration of B2BEC with critical success factors and marketing strategies in line with company values and beliefs. Furthermore, the results showed that most responding organizations were not fully mature in terms of their use of IS/IT and there appeared to be a significant positive relationship between the adoption and wide use of evaluation methodologies and the level of IT maturity.

Finally, this study took place at a particular point in time. Further research could be conducted to capture opinions of benefits realization and investment evaluation at various phases of an IS/IT projects life cycle. Alternatively, further analysis can be conducted to determine whether or not there are relationships amongst the satisfaction of adopting B2BEC, the usage of IEM and BRM, and the level of IT maturity (e.g. if the level of IT maturity can lead to more effective use of IEM and/or BRM).

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